patients who reported adverse events in the last 4 weeks, of which, 14.8% experienced digestive symptoms, 8.9% with skin allergies, 22.2% with blurred vision, 4.0% with liver and kidney damages. **CONCLUSIONS:** The majority of T2DM patients treated with OADs in China had suboptimal glycemic control. The adverse events of OADs treatment impose a high disease burden on patients. It underscores the urgent need for new therapies in the prevention and management of diabetes.

PDB5

IMPROVING PATIENT KNOWLEDGE AND CLINICAL OUTCOMES THROUGH A MEDICATION THERAPY MANAGEMENT (MTM) PROGRAM

Pinto SL, Howe JL, Partha G
University of Toledo, Toledo, OH, USA

OBJECTIVES: To examine the effectiveness of an employer-sponsored, pharmacist-provided medication therapy management (MTM) program by evaluating changes in patient knowledge and clinical outcomes over 1 year in patients with diabetes. **METHODS:** A prospective pre–post longitudinal study. Three 10-question knowledge tests were developed collaboratively by an expert panel of clinical pharmacists and researchers, as part of the MTM program. Throughout the duration of the program, pharmacists administered the tests to City of Toledo employees and their dependents with diabetes, at baseline, 6 months and 12 months. The tests were designed to assess patients' understanding of the causes, symptoms, and clinical goals associated with diabetes, hypertension, and hyperlipidemia. Based on the test results, pharmacists were able to tailor counseling sessions by educating patients based on the questions answered incorrectly. Clinical data were simultaneously recorded at 3-month intervals over 1 year, and included the following variables: A1c, systolic blood pressure (SBP), and diastolic blood pressure (DBP). Data were analyzed with SPSS v16.0 using descriptive statistics, and Wilcoxin tests. **RESULTS:** One hundred and one patients enrolled in the MTM program. Diabetes knowledge improved for 29 patients (58.00%; $P < 0.001$) after only 6 months. Hypertension test scores improved for 15 patients (65.22%; $P < 0.01$) after 1 year. Of those patients, reductions in SBP and DBP toward goal were seen in 11 (73.33%, $P = 0.023$) and 15 patients (100%, $P = 0.001$), respectively. Overall, 41 patients (56.16%; $P = 0.042$) reduced their A1c toward goal within 3 months; 22 patients (59.46%; $P = 0.050$) were able to decrease their SBP toward goal, whereas 24 patients (64.86%; $P = 0.018$) reduced their DPB toward goal after 12 months in the program. **CONCLUSIONS:** This community pharmacy MTM program has effectively shown that consistent patient education delivered by a clinical pharmacist can have a positive impact on knowledge of disease for patients with diabetes while improving clinical outcomes concomitantly.

PDB6

PERFORMANCES OF COMORBIDITY MEASURES IN HEALTH CARE-RELATED BEHAVIORS AND OUTCOMES IN TYPE 2 DIABETES

Ou HT, Balkrishnan R, Erickson SR, Bagozzi RP, Mukherjee B, Piette JD
University of Michigan, Ann Arbor, MI, USA

OBJECTIVES: To assess and compare the predictive and discriminative performances of comorbidity indexes for health-care outcomes and evaluate comorbidity dimensionality using psychometric techniques. **METHODS:** The sample was type 2 diabetes in the Medicaid setting from 2003 to 2007. The conceptual framework was based on the Aday-Anderson's Healthcare Utilization model. Four comorbidity indexes targeted were the Charlson Comorbidity Index, Elixhauser Index (EI), Chronic Disease Score (CDS), and Health-related Quality-of-Life Comorbidity Index (HRQL-CI). Three types of outcomes were health-care behaviors, including physician treatment adherence and patient medication adherence, utilization and expenditures. Multiple regression analyses assessed the predictive performance of comorbidity index. The c statistic (the area under the receiver operator curve) evaluated discriminative validity of the comorbidity index. Confirmatory factor analysis identified comorbidity dimensionality. The SAS™, STATA™, and LISREL™ statistical software were utilized. **RESULTS:** A total of 9832 patients were finally included, with mean age of approximate 45 years and the majority of them was female (73%) and White (52%). The CDS demonstrated the best performance in predicting physician treatment adherence and discriminating medication adherence behavior. The CDS and HRQL-CI mental aspect index had better predictive validity for medication adherence and similar discrimination for physician treatment adherence. Diagnosis-driven indexes (e.g., EI) had better performances for health-care utilization and expenditures outcomes compared to medication-based index (CDS). A 7-factor pattern/dimensionality was noticed and it provided best model fit and predictive performance across different health-care outcomes. Individual comorbidity dimensions demonstrated differential impacts for a given outcome. **CONCLUSIONS:** The CDS and HRQL-CI mental aspect index served as better risk adjustment tools for studying health-care behaviors. Diagnosis-driven indexes remained the first choice for health-care utilization and expenditures data. Comorbidity index which accounts for comorbidity dimensionality provided better risk adjustment and insightful knowledge regarding the impacts of different features of comorbidities in predicting patient outcomes.

PDB7

PREDICTORS FOR THE INITIATION OF A BASAL SUPPORTED ORAL THERAPY (BOT) IN TYPE 2 DIABETIC PATIENTS UNDER REAL-LIFE CONDITIONS IN GERMANY

Hammer H[1], Dippel FW[2], Kostev K[3], Fuchs S[4], Kotowa W[4]
[1]Dr. Med. Harm Hammer, Bremen, Germany; [2]Sanofi-Aventis Deutschland GmbH, Berlin, Germany; [3]IMS Health GmbH & Co. OHG, Frankfurt am Main, Germany; [4]IMS Health GmbH & Co. OHG, Nürnberg, Germany

OBJECTIVES: To assess the predictors for the initiation of a basal-supported oral therapy (BOT) in type 2 diabetics (T2D) under real-life conditions in Germany. **METHODS:** This historical cohort study included T2D who started an oral antidiabetic drug (OAD) treatment between January 1995 and June 2006 and whose records were eligible at least 12 months before and 36 months after OAD initiation. Data were extracted from a representative real-life database (IMS® Disease Analyzer). BOT initiation was defined according to the ATC code of the European Pharmaceutical Market Research Association, with A10C2 (NPH insulin) and A10C5 (long-acting insulin analogues) prescribed additionally to OADs. The time-dependent rate of T2D starting BOT was calculated by use of the Kaplan–Meier method. Univariate and multivariate Cox regression analyses were applied to identify predictive associated factors. **RESULTS:** A total of 9028 T2D on initial OAD therapy were included, of whom 1450 patients have been switched to BOT during the observational period. The probability of BOT initiation was associated with poor metabolic control, midlife age, and OAD therapy before insulinization. The combined Cox regression analysis identified three groups of particular importance: group I (hazard ratio [HR] = 2.72; $P < 0.001$): HbA1c > 8%, age 51–60 years, and sulfonylurea (SU), alpha-glucosidase inhibitor (AGI), or glinide (GLI) as last OAD prescribed, group II (HR = 2.62; $P = 0.032$): HbA1c > 8%, age ≤ 50 and pretreatment with at least three OADs, and group III (HR = 2.10; $P = 0.019$): HbA1c > 8%, pretreatment with a combination of at least three OADs and SU, AGI, or GLI as last OAD prescribed. The HbA1c threshold of 7.5% led to comparable results, although only group I reached significance. **CONCLUSIONS:** The probability of BOT initiation for T2D under real-life conditions in Germany was associated with poor metabolic control, midlife age, and pretreatment with SU, AGI, or GLI. This knowledge may help to identify patients who might benefit from an early initiation of BOT.

PDB8

FACTORS ASSOCIATED WITH THE CHOICE OF FIRST INJETABLE THERAPY AND 6-MONTH TREATMENT OUTCOMES IN PATIENTS WITH TYPE 2 DIABETES: DATA FROM THE CHOICE STUDY IN GERMANY

Reaney M[1], Matthaei S[2], Kiljanski J[3], Arellano J[1], Nicolay C[4]
[1]Eli Lilly & Company Ltd., Surrey, UK; [2]Diabetes Centre Quakenbrück, Quakenbrück, Germany; [3]Eli Lilly & Company Ltd., Warsaw, Poland; [4]Eli Lilly & Company Ltd., Bad Homburg, Germany

OBJECTIVES: CHOICE is an ongoing prospective, multicountry observational study designed to evaluate time to significant treatment change among adults with type 2 diabetes (T2D) initiating injectable therapy in routine practice, and describing baseline characteristics, clinical outcomes, and common adverse events over 24 months. Results presented are from 6-month data analyses of the German sample. **METHODS:** Data were collected at initiation of exenatide or insulin, and 3 and 6 months thereafter. **RESULTS:** In Germany, 848 patients (394 exenatide, 454 insulin) were enrolled. Multivariate logistic regression indicated that high BMI, hypoglycemia, and high triglyceride levels were associated with exenatide initiation, while increased age, high blood glucose levels, and increased frequency of blood glucose monitoring were associated with insulin initiation. Significant treatment changes were made in 20.7% of exenatide-treated and 29.7% of insulin-treated patients; corresponding discontinuation rates of initiated injectable therapy were 15.5% and 4.1%. At 6 months, mean (SD) HbA_{1c} change from baseline was –0.8% (1.4%) in the exenatide cohort (baseline 8.2%) and –1.6% (1.7%) in the insulin cohort (baseline 8.8%). 21.5% of patients initiating exenatide achieved an HbA_{1c} of <6.5% and 42.5% of <7.0%. Corresponding values for patients initiating insulin were 17.7% and 41.7%, respectively. Mean body weight changes were –3.7 kg in the exenatide cohort and +0.9 kg in the insulin cohort. Gastrointestinal symptoms and hypoglycemic episodes were reported by 19.7% and 2.3% of patients in the exenatide cohort, respectively, and 2.5% and 11.3% of patients in the insulin cohort. **CONCLUSIONS:** Differences between German patients who initiated insulin and exenatide appear to reflect recommendations of the German Diabetes Association and the German health-care authorities, with exenatide favored when weight is high and hypoglycemia is experienced on oral therapy and HbA_{1c} being only modestly raised. Treatment outcomes were consistent with results of clinical trials and both are important components of T2D care.

PDB9

LONG-TERM CLINICAL OUTCOMES OF EXENATIDE ONCE-WEEKLY VERSUS INSULIN GLARGINE FOR THE TREATMENT OF TYPE 2 DIABETES PROJECTED USING THE CORE DIABETES MODEL

Timlin L[1], Beaudet A[2], Wilson B[3], Bruhn D[4], Boye KS[5], Palmer JL[2], Lloyd A[6]
[1]Lilly, Windlesham, Surrey, UK; [2]IMS Health, Allschwil, Basel-Landschaft, Switzerland; [3]Lilly, Basingstoke, Hampshire, UK; [4]Eli Lilly & Company, Indianapolis, IN, USA; [5]Lilly, Indianapolis, IN, USA; [6]IMS Health, London, United Kingdom

OBJECTIVES: This analysis aimed to determine the long-term incremental difference in clinical outcomes for exenatide once-weekly (EQW) compared with insulin glargine.